

pupil dilated, irregular and immobile, the iris is discolored by congestion, the tension of the eye is greatly increased. The congestion of the eye, owing to its venous character, is dusky. The cornea becomes anesthetic. Owing to the opacity of the media the fundus cannot be seen.

The prodromal attacks differ only in degree but not in character. Even after a severe attack the eye may return to normal, but after a longer or shorter interval other attacks follow, the vision remains obscured, the tension continues above normal and the eye takes on the glaucomatous appearance. Unless the attack be of short duration, permanent changes take place. The eye, while it loses much of its redness, shows some dilatation of the anterior ciliary veins, the chamber remains somewhat shallow, the iris loses its normal texture and appears atrophic, the pupil is slightly dilated and irregular, and reacts less promptly. The pigment border of the iris seems broader and more prominent by reason of the atrophy of the iris, the tension remains slightly fuller than normal. An examination of the fundus immediately after the attack, unless the prodromal symptoms have been prolonged, shows only hyperemia about the entrance of the optic nerve. Subsequent attacks are apt to be less severe as far as the pain is concerned, but with each one the vision is still further reduced until absolute glaucoma is present. The latter is characterized by the bluish-white sclera over which course the dilated anterior ciliary veins. The cornea is anesthetic but transparent; the iris is reduced to a small stripe, which almost disappears at some points. The chamber is shallow, the bulbus stony hard, a greenish reflex comes from the background, the disk is deeply excavated. Glaucomatous degeneration follows. The cornea becomes opaque, its surface roughened, even vesicles may appear upon the surface, ulceration, with perforation and severe hemorrhage, may ensue. The sclera becomes thinned and staphylomatous, the lens is opaque eventually, atrophy of the globe or panophthalmitis and phthisis follow. The patient obtains no respite from his troubles until the globe has shrunk.

When the symptoms assume an exceedingly acute character, blindness resulting in a few hours, the disease is termed glaucoma fulminans. Frequently the disease is not accompanied by the typical acute attacks, but passes from the prodromal stage into the chronic inflammatory form. The attacks, while much less severe, follow each other rapidly, so that the eye makes no return to the normal, but goes steadily downward.

Glaucoma simplex, or non-inflammatory glaucoma, is marked by the absence of all inflammatory symptoms. The rise of tension is gradual, or may be present at short periods, so that it entirely escapes the examiner. In such cases the diagnosis is often made with difficulty. The anterior ciliary veins are usually slightly more prominent. If the tension be increased, it may be accompanied by slight haziness of the cornea. The vision fails gradually, beginning on the nasal side, though exceptionally the defect may be a concentric shrinkage of the field or a paracentral scotoma. The subjective symptoms consist almost entirely in the disturbance of vision and fleeting attacks of obscurity of sight. The central vision may remain good for a long time and the defect may be overlooked unless the patient be tested with a lessened illumination.

The diagnosis is to be made chiefly on the ophthalmoscopic findings, although these are often far from typical. The disk is white or grayish, more or less excavated, its sides even undermined, so that the vessels bending over the disk margin disappear under the overhanging edge. The arteries are somewhat diminished in caliber, the veins are full and dark. Pulsation of the arteries is present or readily produced by slight pressure on the globe, and the ves-

sels are pushed over toward the inner side of the disk. Around the disk is a pale zone, the glaucomatous halo. The choroid shows signs of atrophy, the larger vessels appearing with distinctness, and giving the fundus a tessellated appearance. Hemorrhages may be present in any type of the disease, from the violence of the inflammation, the increased tension or, in the late stages, from degeneration of the vessels.

Both eyes are generally affected by glaucoma, either simultaneously or at different times, though the type of the disease may differ in the two eyes or the character of the attacks be quite different.

[For discussion see May JOURNAL, page 158.]

## PUBLICATIONS.

**International Clinics.** Philadelphia: J. B. Lippincott Company. Vol. 2 of the Fourteenth Series of "International Clinics" has been received. This volume is in every respect up to the usual degree of excellence that this series has maintained for thirteen years, and certainly the editors' aim at the time of the inception of the work, in 1891, to "make this periodical a complete post-graduate course of medical instruction" has been realized. It would be impossible within the space allotted to a review to dilate on the individual excellencies of many of these articles. The careful physician is going more and more to monographs on special subjects for his reading matter. Superficial literature in book form appealing to the "busy practitioner" has not filled the needs for which it was intended. In this series of monographs and clinical lectures, however, the physician finds a concise yet comprehensive treatise on the subjects considered, and it is filling a want not supplied elsewhere.

**Anatomy and Surgery of the Knee-Joint** is the principal article in the July number of *Annals of Surgery*, and is illustrated in the lavish manner customary with the *Annals*. Another paper of great interest, and also well illustrated, is on "Primary Sarcom of the Spleen," an exceedingly rare condition.

*The American Journal of Obstetrics* for July publishes the paper by Dr. Kreutzmann on "Transverse Suprapubic Division of the Skin Applied for the Simultaneous Performance of Intra-Abdominal Work and of Inguinal Shortening of the Round Ligaments," read before the Academy of Medicine some time since, and abstracted in the JOURNAL at the time.

*The Virginia Hospital Bulletin* is a new journal which started publication in July. It is to be a "quarterly journal of medicine and surgery," issued by the staff of the Virginia Hospital, Richmond, Va. It has an exceedingly awkward shape, and the length of the lines is six inches; too long by at least two inches. The strain upon the eye muscles in following a line of this length is easily perceptible to almost anyone, and is disastrous to one whose muscles are a bit weak.

**Longer Medical Course.**—It is estimated that there are more than 6,000 physicians in London alone, and the total for Great Britain and Ireland comes to 37,730. The doctors increase at the rate of about 400 per annum. Great as this increase is, it was more than double that number some years ago, before the course of study was lengthened from four years to five.—*Medical Times*.

**Pan-American Congress.**—The next meeting of the Pan-American Medical Congress will be held in Panama in December. The congress meets every three years. The first session was held in Washington in 1893, the second in Mexico in 1896, but the 1899 meeting was given up on account of war in Venezuela, where it was to have met, and the next one was in 1901, held in Cuba.